# SNPets from CDC

***NHANES Working Group***
A CDC-wide team is currently collaborating with the National Cancer Institute to measure population variation in selected genes using stored DNA samples collected during the third National Health and Nutrition Examination Survey (NHANES) III.

**Johnston County Osteoarthritis Project**
CDC and the University of North Carolina are conducting a community-based cohort study of risk factors, including genetics, for osteoarthritis in a rural population.

**National Birth Defects Prevention Study (NBDPS)**
This ongoing case-control study has collected DNA samples by using cheek swabs from enrolled children and their parents, with over 5,000 samples received in 2004.

**Surveillance for Duchenne/Becker Muscular Dystrophy (DBMD)**
CDC is developing an approach to single gene disorders based on surveillance and improved screening, diagnosis and services, beginning with the Muscular Dystrophy Surveillance Tracking and Research Network (MD Starnet) in Arizona, Colorado, Iowa, and western New York state.

**Analysis of Genetic Risk Factors for Fatal Influenza in Children**
CDC is conducting a case-control study integrated with multi-state population-based surveillance for influenza-related hospitalizations in children during the 2004-2005 season to identify genetic variants that may put certain children at a greater risk of mortality associated with influenza.

**Molecular Signatures of Cervical Neoplasia**
As part of the National Cancer Institute's (NCI) Early Detection Research Network, CDC has detected and validated biomarkers that can be used to improve the sensitivity and specificity of cervical cancer screening.

**The Role of Host Genetic Polymorphisms in Susceptibility to *M. Tuberculosis* Infection and Progression to TB Disease**
CDC is working to identify genetic risk factors for susceptibility to TB. These could help TB programs in other countries target costly interventions to the 10% of exposed persons truly at risk of developing TB.

**Evaluation of Genomic Applications in Practice and Prevention (EGAPP)**
CDC has assembled an independent, non-Federal working group of experts in epidemiology, genomics, public health, laboratory practice, medicine and health services to demonstrate an evidence-based review process for genetic tests in transition from research to clinical application.

**Genetics of Kidneys in Diabetes (GoKinD) Study**
CDC is developing a repository of DNA samples to study kidney disease in adults with type 1 diabetes as part of a study sponsored by the Juvenile Diabetes Research Foundation, in collaboration with the Joslin Diabetes Center and George Washington University.

CDC developed a 2004 summary briefing book to document its priorities, accomplishments, and future directions in human genomics. The following presents "snippets" from the briefing book; the complete document is available online at http://www.cdc.gov/genomics/activities/ogdp/2004/cochp_ogdp.htm.

***HuGENet™***
The Human Genome Epidemiology Network (HuGeNet™) co-sponsored a workshop on meta-analysis of gene-disease association data with the Public Health Genetics Unit in Cambridge, U.K.

**Stroke Prevention in Young Women Study**
This collaboration of CDC, the University of Maryland and 59 hospitals in the Baltimore–Washington, D.C. area recently published a study of ischemic stroke in relation to genes in the thrombomodulin-protein C pathway.

**Newborn Screening for Cystic Fibrosis**
A report with recommendations for newborn screening for cystic fibrosis was published in the MMWR in October 2004, summarizing results of a workshop co-sponsored by CDC and the Cystic Fibrosis Foundation.

**Rare Disease Genetic Testing**
In collaboration with other HHS agencies, professional organizations, patient advocacy groups, and Emory University, CDC convened a conference: "Promoting Quality Laboratory Testing for Rare Diseases: Keys to Ensuring Quality Genetic Testing."

**Searching for a Flavivirus Susceptibility or Resistance Gene in West Nile Virus (WNV) Infection**
CDC scientists are currently collaborating with Georgia State University to search for a flavivirus susceptibility/resistance gene in persons who were hospitalized for WNV disease during the 2003 WNV outbreak in Colorado.

**Influence of Host Genetics on Virological Failure of Highly Active Anti-Retroviral Therapy (HAART)**
CDC investigators are studying the effect of host genetics on virological failure of HAART using a HIV-infected adult cohort with well-documented treatment history.

**Prevalence of Gene Variants Coding for Enzymes Involved in Nicotine and Carcinogen Metabolism**
CDC will genotype approximately 7,300 samples from the NHANES III DNA Bank for genes associated with nicotine metabolism.

**Chronic Beryllium Disease (CBD)**
A sophisticated PCR-DNA sequencing assay has been developed to identify more precisely specific haplotypes associated with susceptibility to CBD.

**Genetic and Environmental Factors in Brain Cancer**
CDC is conducting a population-based case-control study to assess potential genetic susceptibility factors in the excess risk of brain cancer observed among persons working in agriculture.